



The POLICY Project

The Economic Impact of AIDS in Namibia

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AIDS has the potential to create severe economic impacts in many African countries. It is different from most other diseases because it strikes people in the most productive age groups and is essentially 100 percent fatal. The effects will vary according to the severity of the AIDS epidemic and the structure of the national economies. The two major economic effects are a reduction in the labor supply and increased costs:

Labor Supply

- The loss of young adults in their most productive years will affect overall economic output
- If AIDS is more prevalent among the economic elite, then the impact may be much larger than the absolute number of AIDS deaths indicates

Costs

- The direct costs of AIDS include expenditures for medical care, drugs, and funeral expenses
- Indirect costs include lost time due to illness, recruitment and training costs to replace workers, and care of orphans
- If costs are financed out of savings, then the reduction in investment could lead to a significant reduction in economic growth

LABOR FORCE STATISTICS		
	Economically Active Labor Force: 1991	
Sector	Aged 10 years & over	%
AGRICULTURE		
Agriculture, hunting, forestry and fishing	189,929	48.2
INDUSTRY		
Mining and quarrying industries	14,686	3.7
Manufacturing industries	22,884	5.8
SERVICES		
Electricity, gas and water	2,974	0.8
Construction	18,638	4.7
Trade, restaurants and hotels	37,820	9.6
Transport, storage and communications	9,322	2.4
Finance, insurance, real estate and business services	8,547	2.2
Community, social and personal services	5,827	1.5
Activities not adequately defined	83,714	21.2
TOTAL EMPLOYED	394,341	100.0
Unemployed	99,239	
TOTAL LABOR FORCE	493,580	

Source: Europa World Year Book, 1998.

The table at the left indicates the labor force statistics based on the 1991 census in Namibia. About 48 percent of the employed population is in the agricultural sector, which also provided approximately 12.7 percent of overall GDP and 36.1 of total exports. Fish and fish products are an important component of this; they accounted for 22.6 percent of total exports in 1996. Mining was the next most important sector, contributing 14.5 percent of GDP, and 56.7 percent

of export earnings. Diamond mining alone accounted for 38.3 percent of export earnings in 1996; over 90 percent of diamonds mined in Namibia are of gem quality.¹

The economic effects of AIDS will be felt first by individuals and their families, then ripple outwards to firms and businesses and the macro-economy. This paper will consider each of these levels in turn and provide examples from Namibia to illustrate these impacts.

Economic Impact of AIDS on Households

The household impacts begin as soon as a member of the household starts to suffer from HIV-related illnesses:

- Loss of income of the patient (who is frequently the main breadwinner)
 - Household expenditures for medical expenses may increase substantially
 - Other members of the household, usually daughters and wives, may miss school or work less in order to care for the sick person
 - Death results in: a permanent loss of income, from less labor on the farm or from lower remittances; funeral and mourning costs; and the removal of children from school in order to save on educational expenses and increase household labor, resulting in a severe loss of future earning potential.
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- A 1995 study by NEPRU found the monthly household income of Okatana, Namibia to be very low, with 69% of the population making less than 1000 Rand per month. In this same sample, the dependency ratio was calculated to be 6.7 dependents per worker, and the unemployment rate was 47%. A World Bank study found extreme income inequality for the country as a whole, with the inequality line drawn clearly between races. The white population, which makes up five percent of the population, along with a small black elite, another one percent, have average annual per capita incomes of US\$16,500, while another 39% of the population, blacks who work in the modern sector, have annual per capita incomes of US\$750. The rest of the population, all black, has annual per capita incomes of US\$85. Although the impact of AIDS on households had not yet been seen in 1995, there was concern that, due to the economic situation of households in Namibia, an increase in AIDS cases would lead to increased labor migration, school drop-outs, higher levels of illiteracy, and an increase in crime and transactional sex.^{1,2}
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- The leading cause of death for all age groups in 1998 was AIDS. Since deaths from AIDS are under-reported, the true magnitude of the effect of AIDS on mortality is even higher.²

¹ The Europa World Yearbook, 1998. Europa Publications Limited 1998; London, United Kingdom.

Economic Impact of AIDS on Agriculture

Agriculture is the largest sector in most African economies accounting for a large portion of production and a majority of employment. Studies done in Tanzania and other countries have shown that AIDS will have adverse effects on agriculture, including loss of labor supply and remittance income. The loss of a few workers at the crucial periods of planting and harvesting can significantly reduce the size of the harvest. In countries where food security has been a continuous issue because of drought, any declines in household production can have serious consequences. Additionally, a loss of agricultural labor is likely to cause farmers to switch to less-labor-intensive crops. In many cases this may mean switching from export crops to food crops. Thus, AIDS could affect the production of cash crops as well as food crops.

- Fifty percent of Namibians obtain their income through subsistence farming, which accounts for 3% of the GDP. Studies in other countries in this region have shown that "...there is evidence that surviving children, who may have lost both parents to HIV-related illnesses, often have problems in retaining family land and other assets".²
- Commercial agriculture accounts for 9% of the Namibian GDP and employs approximately 36,000 workers. Productivity will be affected as skilled, supervisory, and unskilled workers experience HIV-related morbidity and mortality.²
- HIV/AIDS in Namibia "will exacerbate the present decline in farming output and/or per capita food production, widening income disparities, increased food prices and exodus to cities already crowded with unemployment".⁵

Economic Impact of AIDS on Firms

AIDS may have a significant impact on some firms. AIDS-related illnesses and deaths to employees affect a firm by both increasing expenditures and reducing revenues. Expenditures are increased for health care costs, burial fees and training and recruitment of replacement employees. Revenues may be decreased because of absenteeism due to illness or attendance at funerals and time spent on training. Labor turnover can lead to a less experienced labor force that is less productive.

Factors Leading to Increased Expenditure	Factors Leading to Decreased Revenue
Health care costs	Absenteeism due to illness
Burial fees	Time off to attend funerals
Training and recruitment	Time spent on training
	Labor turnover

For some smaller firms the loss of one or more key employees could be catastrophic, leading to the collapse of the firm. In others, the impact may be small. Firms in some key sectors, such as transportation and mining, are likely to suffer larger impacts than firms in other sectors. In poorly managed situations the HIV-related costs to companies

can be high. However, with proactive management these costs can be mitigated through effective prevention and management strategies.

Impacts on Other Economic Sectors

AIDS will also have significant effects in other key sectors. Among them are health, transport, mining, education and water.

- **Health.** AIDS will affect the health sector for two reasons: (1) it will increase the number of people seeking services and (2) health care for AIDS patients is more expensive than for most other conditions. Governments will face trade-offs along at least three dimensions: treating AIDS versus preventing HIV infection; treating AIDS versus treating other illnesses; and spending for health versus spending for other objectives. Maintaining a healthy population is an important goal in its own right and is crucial to the development of a productive workforce essential for economic development.
- An analysis by UNAIDS and WHO estimated that paying the direct costs of HIV/AIDS would consume 19.9% of the total budget of N\$744 million allocated to the Namibian Ministry of Health and Social Services in 1996/97.³
- The total cost of hospitalization due to AIDS is expected to reach N\$316.9 million for the period 1996-2000, while the total outpatient costs for HIV infected people is expected to reach \$N85.6 million for the same period.⁵
- **Transport.** The transport sector is especially vulnerable to AIDS and important to AIDS prevention. Building and maintaining transport infrastructure often involves sending teams of men away from their families for extended periods of time, increasing the likelihood of multiple sexual partners. The people who operate transport services (truck drivers, train crews, sailors) spend many days and nights away from their families. Most transport managers are highly trained professionals who are hard to replace if they die. Governments face the dilemma of improving transport as an essential element of national development while protecting the health of the workers and their families.
- The highest prevalence rates in Namibia are reported in Katima Mulilo in the Caprivi Strip, which is close to the borders with Zambia, Zimbabwe, and Botswana. The cross-border movements that occur among these countries around this point, expedited by improving transportation networks, make this area very risky for the further spread of HIV.⁶
- **Mining.** The mining sector is a key source of foreign exchange for many countries. Most mining is conducted at sites far from population centers forcing workers to live apart from their families for extended periods of time. They often resort to commercial sex. Many become infected with HIV and spread that infection to their

spouses and communities when they return home. Highly trained mining engineers can be very difficult to replace. As a result, a severe AIDS epidemic can seriously threaten mine production.

- Mining in Namibia accounts for 12% of the GDP, 3.5% of employment and 50% of total merchandise exports; however, labor costs form a small part of overall costs in this sector. Therefore, although the sector will suffer some financial loss due to absenteeism and other effects from HIV/AIDS, the strongest effect will most likely be retraining costs when highly trained people are affected. Policies can be instigated that would have a positive effect on this sector; e.g., changing the practice of requiring miners to leave their families behind in the rural areas.²
- **Education.** AIDS affects the education sector in at least three ways: the supply of experienced teachers will be reduced by AIDS-related illness and death; children may be kept out of school if they are needed at home to care for sick family members or to work in the fields; and children may drop out of school if their families can not afford school fees due to reduced household income as a result of an AIDS death. Another problem is that teenage children are especially susceptible to HIV infection. Therefore, the education system also faces a special challenge to educate students about AIDS and equip them to protect themselves.
- Evidence from Namibia suggest that students and teachers, affected by HIV/AIDS, may be subjected to discrimination and ostracism.⁴
- **Water.** Developing water resources in arid areas and controlling excess water during rainy periods requires highly skilled water engineers and constant maintenance of wells, dams, embankments, etc. The loss of even a small number of highly trained engineers can place entire water systems and significant investment at risk. These engineers may be especially susceptible to HIV because of the need to spend many nights away from their families.
- **Fishing.** Fishermen face the same risks of HIV/AIDS as do miners, due to similar living conditions, and thus will face similar losses as the mining sector.
- This sector increased its contribution to the GDP of Namibia from 1.5% to 4% between 1990 and 1996, and by 2000, it is expected to contribute more jobs to the Namibian economy than the mining sector. The losses will consist of costs of retraining, pensions, medical aid, and other costs.²

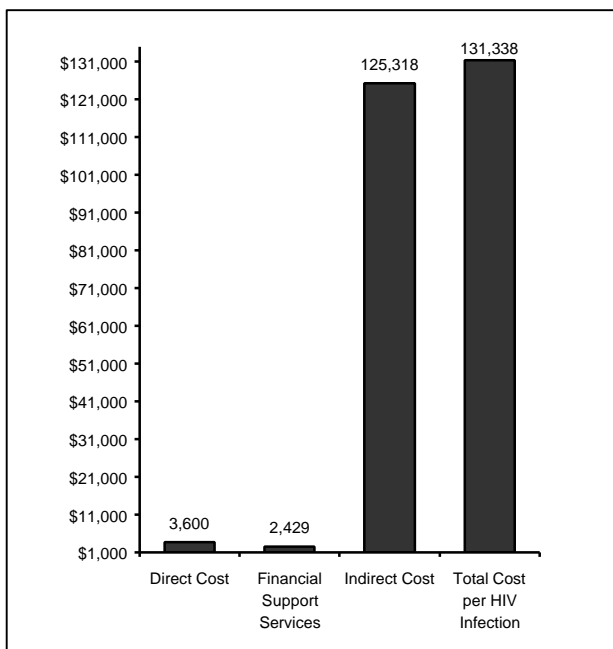
Macroeconomic Impact of AIDS

The macroeconomic impact of AIDS is difficult to assess. Most studies have found that estimates of the macroeconomic impacts are sensitive to assumptions about how AIDS affects savings and investment rates and whether AIDS affects the best-educated employees more than others. Few studies have been able to incorporate the impacts at the

household and firm level in macroeconomic projections. Some studies have found that the impacts may be small, especially if there is a plentiful supply of excess labor and worker benefits are small.

There are several mechanisms by which AIDS affects macroeconomic performance.

- AIDS deaths lead directly to a reduction in the number of workers available. These deaths occur to workers in their most productive years. As younger, less experienced workers replace these experienced workers, worker productivity is reduced.
- A shortage of workers leads to higher wages, which leads to higher domestic production costs. Higher production costs lead to a loss of international competitiveness which can cause foreign exchange shortages.
- Lower government revenues and reduced private savings (because of greater health care expenditures and a loss of worker income) can cause a significant drop in savings and capital accumulation. This leads to slower employment creation in the formal sector, which is particularly capital intensive.
- Reduced worker productivity and investment leads to fewer jobs in the formal sector. As a result some workers will be pushed from high paying jobs in the formal sector to lower paying jobs in the informal sector.
- The overall impact of AIDS on the macro-economy is small at first but increases significantly over time.
- According to a study done by UNAIDS and WHO in 1996, the total morbidity and mortality costs related to AIDS was about N\$1 billion, which was about 7.9% of GDP and approximately 20% of central government expenditure. Projections indicated that the direct and indirect costs of AIDS in Namibia between 1996 and 2000 will be approximately \$6 billion.³



- The same study projects that the average direct medical cost for each AIDS patient will be N\$3,600, the average financial support from the government to patients and their families will be N\$2,429, and the average indirect cost, which consists of lost productivity, will be N\$125,318 for each AIDS patient. (see graph at left) Thus, the total cost savings for the country, including productivity gains, for any HIV infection prevented today is N\$131,338.³

- The total costs of AIDS orphans to Namibia could reach N\$50.7 million by the year 2000, if the government increases its current level of support, as has been speculated.⁵
- Furthermore, the total costs in terms of disability grants to AIDS patients is expected to reach N\$194.5 million by the year 2000.⁵

What Can Be Done?

AIDS has the potential to cause severe deterioration in the economic conditions of many countries. However, this is not inevitable. There is much that can be done now to keep the epidemic from getting worse and to mitigate the negative effects. Among the responses that are necessary are:

- **Prevent new infections.** The most effective response will be to support programs to reduce the number of new infections in the future. After more than a decade of research and pilot programs, we now know how to prevent most new infections. An effective national response should include information, education and communications; voluntary counseling and testing; condom promotion and availability; expanded and improved services to prevent and treat sexually transmitted diseases; and efforts to protect human rights and reduce stigma and discrimination. Governments, NGOs and the commercial sector, working together in a multi-sectoral effort can make a difference. Workplace-based programs can prevent new infections among experienced workers.
- **Design major development projects appropriately.** Some major development activities may inadvertently facilitate the spread of HIV. Major construction projects often require large numbers of male workers to live apart from their families for extended periods of time, leading to increased opportunities for commercial sex. A World Bank-funded pipeline construction project in Cameroon was redesigned to avoid this problem by creating special villages where workers could live with their families. Special prevention programs can be put in place from the very beginning in projects such as mines or new ports where commercial sex might be expected to flourish.
- **Programs to address specific problems.** Special programs can mitigate the impact of AIDS by addressing some of the most severe problems. Reduced school fees can help children from poor families and AIDS orphans stay in school longer and avoid deterioration in the education level of the workforce. Tax benefits or other incentives for training can encourage firms to maintain worker productivity in spite of the loss of experienced workers.
- The issue of land rights needs to be addressed. Since so much of the rural population of Namibia depends on subsistence farming for food as well as marketable outputs, when widows and surviving children lose their rights to land, their very survival is threatened.²

- Recently, various financial institutions have been introducing restrictions on life and health insurance coverage, refusing to pay benefits when death or illness is AIDS-related. Restrictions have also been introduced with respect to mortgage financing for housing. Although this may be rational from the firms' point of view, the government needs to be aware of this issue, and investigate new regulations.²
- **Mitigate the effects of AIDS on poverty.** The impacts of AIDS on households can be reduced to some extent by publicly funded programs to address the most severe problems. Such programs have included home care for people with HIV/AIDS, support for the basic needs of the households coping with AIDS, foster care for AIDS orphans, food programs for children and support for educational expenses. Such programs can help families and particularly children survive some of the consequences of an adult AIDS death that occur when families are poor or become poor as a result of the costs of AIDS.
- The government of Namibia has announced that it will give financial assistance to all families who have someone living with AIDS. There is skepticism, however, as to whether the government can meet its pledge, given its own financial constraints.⁵

A strong political commitment to the fight against AIDS is crucial. Countries that have shown the most success, such as Uganda, Thailand and Senegal, all have strong support from the top political leaders. This support is critical for several reasons. First, it sets the stage for an open approach to AIDS that helps to reduce the stigma and discrimination that often hamper prevention efforts. Second, it facilitates a multi-sectoral approach by making it clear that the fight against AIDS is a national priority. Third, it signals to individuals and community organizations involved in the AIDS programs that their efforts are appreciated and valued. Finally, it ensures that the program will receive an appropriate share of national and international donor resources to fund important programs.

Perhaps the most important role for the government in the fight against AIDS is to ensure an open and supportive environment for effective programs. Governments need to make AIDS a national priority, not a problem to be avoided. By stimulating and supporting a broad multi-sectoral approach that includes all segments of society, governments can create the conditions in which prevention, care and mitigation programs can succeed and protect the country's future development prospects.

References

1. Webb, D. and D. Simon. "Migrants, Money and the Military: The Social Epidemiology of HIV/AIDS in Owambo, Northern Namibia". NEPRU Occasional Paper No. 4. August, 1995.
2. Cohen, D. "Socio-Economic Causes and Consequences of the HIV Epidemic in Southern Africa: A Case Study of Namibia". UNDP HIV and Development Programme. Issues Paper #31. www.undp.org/hiv/issues/English/issue31.htm. 5/5/99.
3. "Economic Consequences of HIV/AIDS in Namibia: UNAIDS and WHO Undertake a Rapid Assessment of the Costs". UNAIDS. www.un.na/unaids/innam.htm. 5/5/99.
4. "UNESCO Regional Seminar on HIV/AIDS and Education within the School System for English-Speaking Countries in Eastern and Southern Africa". UNESCO Education Sector. February 20-24, 1995. Harare, Zimbabwe.
5. Ojo, K. and M. Delaney. "Economic and Demographic Consequences of AIDS in Namibia: Rapid Assessment of the Costs". International Journal of Health Planning and Management. Vol 12, 315-326 (1997).
6. Webb, D (1998) "The political economy of HIV/AIDS: a case study of the 'Kariba nexus'," AIDS Analysis Africa; 8(2): 7-9.